What is claimed is:

1) **A device for the determination of the frictional characteristics of large surfaces comprising:**

   A) a frame;

   B) a drive motor mounted in the frame;

   C) a drive train;

   D) a horizontal measurement arm having a proximate end attached to the drive train and capable of rotation about a circular path induced by the drive train and a distal end;

   E) a spherical frictional slider attached to the distal end that contacts and slides along a surface under evaluation; and

   F) a tangential force detector on the measurement arm to measure the resistance encountered by the spherical frictional slider as it slides along the surface under evaluation.

2) **The device of claim 1 further including a first housing about the spherical frictional slider and engaging the spherical friction slider.**

3) **The device of claim 2 wherein the first housing frictionally engages the spherical friction slider.**

4) The device of claim 2 further including an angular position sensor that determines the relative location of the measurement arm about the circular path.

5) The device of claim 2 further including a lift mechanism for bringing the spherical friction slider into and out of contact with the surface under evaluation.

6) The device of claim 2 further including a loading assembly that imposes a load on the measurement arm in a direction normal to the surface under evaluation.

7) The device of claim 5 further including a load force detection device to detect the amount of load applied to the measurement arm.

8) The device of claim 2 further including a vertical deviation detector on the measurement arm to detect changes in the topography of the surface under evaluation.

9) The device of claim 2 further including a second housing that contains the entire frictional testing system.

10) The device of claim 2 further including a data acquisition system for the collection, analysis and archiving of data generated by the tangential force detector.

11) A device for the determination of the frictional characteristics of large surfaces comprising:

A) a frame;

B) a drive motor mounted in the frame;

C) a drive train;

D) a horizontal measurement arm having a proximate end attached to the drive train and capable of rotation about a circular path induced by the drive train and a distal end;

E) a spherical frictional slider attached to the distal end that contacts and slides along a surface under evaluation;

F) a tangential force detector on the measurement arm to measure the resistance encountered by the spherical frictional slider as it slides along the surface under evaluation;

G) a first housing about the spherical frictional slider and engaging the spherical friction slider;

H) an angular position sensor that determines the relative location of the measurement arm about the circular path;

I) a lift mechanism f r bringing the spherical friction slider into and out of contact with the surface under evaluation;

J) a loading assembly that imposes a load on the measurement arm in a direction normal to the surface under evaluation;

K) a vertical deviation detector on the measurement arm to detect changes in the topography of the surface under evaluation; and

L) a data acquisition system for the collection, analysis and archiving of data generated by the tangential force detector, the vertical deviation detector, the load detector and the angular position sensor.

12) The device of claim 11 further including a housing enclosing the device.

13) The device of claim 2 further including a Go/No-Go acceptance system.

14) The device of claim 11 further including a Go/No-Go acceptance system.

15) The device of claim 2 wherein the spherical friction slider comprises a ball.